RAW SEQUENCE LISTING

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Application Serial Number: _____08/252,384 D_____

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RAW SEQUENCE LISTING   DATE: 03/07/2007
PATENT APPLICATION: US/08/252,384D   TIME: 15:04:39

Input Set : N:\efs\03_07_07\08252384D_efs\RACT00100.txt
Output Set: N:\CRF4\03062007\H252384D.raw

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 3 <110> APPLICANT: Reactive Surfaces, Ltd.
 4         McDaniel, Steven
 5         Raushel, Frank M
 6         Wild, James R
 8 <120> TITLE OF INVENTION: Recombinant Organophosphorous Acid Anhydrase and Methods of
Use
10 <130> FILE REFERENCE: TAMK145
12 <140> CURRENT APPLICATION NUMBER: US 08/252,384D
13 <141> CURRENT FILING DATE: 1994-06-01
15 <150> PRIOR APPLICATION NUMBER: US 07/928,540
16 <151> PRIOR FILING DATE: 1992-08-13
18 <150> PRIOR APPLICATION NUMBER: US 07/344,258
19 <151> PRIOR FILING DATE: 1989-04-27
21 <160> NUMBER OF SEQ ID NOS: 4
23 <170> SOFTWARE: PatentIn version 3.3
25 <210> SEQ ID NO: 1
26 <211> LENGTH: 1337
27 <212> TYPE: DNA
28 <213> ORGANISM: Pseudomonas diminuta
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46 ggc aca ggc gat cgg atc aat acc gtg cgc ggt cct atc aca atc tct    203
47 Gly Thr Gly Asp Arg Ile Asn Thr Val Arg Gly Pro Ile Thr Ile Ser
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51 Glu Ala Gly Phe Thr Leu Thr His Glu His Ile Cys Gly Ser Ser Ala
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54 gga ttc ttg cgt gct tgg cca gag ttc ttc ggt agc cgc aaa gct cta    299
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58 gcg gaa aag gct gtg aga gga ttg cgc cgc gcc aga gcg gct ggc gtg    347
59 Ala Glu Lys Ala Val Arg Gly Leu Arg Arg Ala Arg Ala Ala Gly Val
60 80                  85                  90                  95
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74 gag gaa ctc aca cag ttc ttc ctg cgt gag att caa tat ggc atc gaa      539
75 Glu Glu Leu Thr Gln Phe Phe Leu Arg Glu Ile Gln Tyr Gly Ile Glu
76       145             150             155
78 gac acc gga att agg gcg ggc att atc aag gtc gcg acc aca ggc aag      587
79 Asp Thr Gly Ile Arg Ala Gly Ile Ile Lys Val Ala Thr Thr Gly Lys
80 160             165             170             175
82 gcg acc ccc ttt cag gag tta gtg tta aag gcg gcc gcc cgg gcc agc      635
83 Ala Thr Pro Phe Gln Glu Leu Val Leu Lys Ala Ala Ala Arg Ala Ser
84              180             185             190
86 ttg gcc acc ggt gtt ccg gta acc act cac acg gca gca agt cag cgc      683
87 Leu Ala Thr Gly Val Pro Val Thr Thr His Thr Ala Ala Ser Gln Arg
88              195             200             205
90 gat ggt gag cag cag gcc gcc att ttt gag tcc gaa ggc ttg agc ccc      731
91 Asp Gly Glu Gln Gln Ala Ala Ile Phe Glu Ser Glu Gly Leu Ser Pro
92       210             215             220
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95 Ser Arg Val Cys Ile Gly His Ser Asp Asp Thr Asp Asp Leu Ser Tyr
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98 ctc acc gcc ctc gct gcg cgc gga tac ctc atc ggt cta gac cac atc      827
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118 gtg aac ccc gac ggg atg gcc ttc att cca ctg aga gtg atc cca ttc     1067
119 Val Asn Pro Asp Gly Met Ala Phe Ile Pro Leu Arg Val Ile Pro Phe
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Input Set : N:\efs\03_07_07\08252384D_efs\RACT00100.txt
Output Set: N:\CRF4\03062007\H252384D.raw

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152 Thr Gly Asp Arg Ile Asn Thr Val Arg Gly Pro Ile Thr Ile Ser Glu
153         35                  40                  45
156 Ala Gly Phe Thr Leu Thr His Glu His Ile Cys Gly Ser Ser Ala Gly
157     50                  55                  60
160 Phe Leu Arg Ala Trp Pro Glu Phe Phe Gly Ser Arg Lys Ala Leu Ala
161 65                  70                  75                  80
164 Glu Lys Ala Val Arg Gly Leu Arg Arg Ala Arg Ala Ala Gly Val Arg
165             85                  90                  95
168 Thr Ile Val Asp Val Ser Thr Phe Asp Ile Gly Arg Asp Val Ser Leu
169             100                 105                 110
172 Leu Ala Glu Val Ser Arg Ala Ala Asp Val His Ile Val Ala Ala Thr
173         115                 120                 125
176 Gly Leu Trp Phe Asp Pro Pro Leu Ser Met Arg Leu Arg Ser Val Glu
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181 145                 150                 155                 160
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188 Thr Pro Phe Gln Glu Leu Val Leu Lys Ala Ala Ala Arg Ala Ser Leu
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193         195                 200                 205
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197     210                 215                 220
200 Arg Val Cys Ile Gly His Ser Asp Asp Thr Asp Asp Leu Ser Tyr Leu
201 225                 230                 235                 240
204 Thr Ala Leu Ala Ala Arg Gly Tyr Leu Ile Gly Leu Asp His Ile Pro
205             245                 250                 255
208 His Ser Ala Ile Gly Leu Glu Asp Asn Ala Ser Ala Ser Ala Leu Leu
209             260                 265                 270
212 Gly Ile Arg Ser Trp Gln Thr Arg Ala Leu Leu Ile Lys Ala Leu Ile
213         275                 280                 285
216 Asp Gln Gly Tyr Met Lys Gln Ile Leu Val Ser Asn Asp Trp Leu Phe
217     290                 295                 300
220 Gly Phe Ser Ser Tyr Val Thr Asn Ile Met Asp Val Met Asp Arg Val
221 305                 310                 315                 320
224 Asn Pro Asp Gly Met Ala Phe Ile Pro Leu Arg Val Ile Pro Phe Leu
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255             20              25              30
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261 ggt ttc aca ctg act cac gag gac atc tgc ggc agc tcg gca gga ttc       251
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265 ttg cgt gct tgg cca gag ttc ttc ggt agc cgc aaa gct cta gcg gaa       299
266 Leu Arg Ala Trp Pro Glu Phe Phe Gly Ser Arg Lys Ala Leu Ala Glu
267     65              70              75
269 aag gct gtg aga gga ttg cgc gcc aga gcg gct ggc gtg cga acg att       347
270 Lys Ala Val Arg Gly Leu Arg Ala Arg Ala Ala Gly Val Arg Thr Ile
271 80              85              90              95
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274 Val Asp Val Ser Thr Phe Asp Ile Gly Arg Asp Val Ser Leu Leu Ala
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277 gag gtt tcg cgg gct gcc gac gtt cat atc gtg gcg gcg acc ggc ttg       443
278 Glu Val Ser Arg Ala Ala Asp Val His Ile Val Ala Ala Thr Gly Leu
279             115             120             125
281 tgg ttc gac ccg cca ctt tcg atg cga ttg agg tat gta gag gaa ctc       491
282 Trp Phe Asp Pro Pro Leu Ser Met Arg Leu Arg Tyr Val Glu Glu Leu
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285 aca cag ttc ttc ctg cgt gag att caa tat ggc atc gaa gac acc gga       539
286 Thr Gln Phe Phe Leu Arg Glu Ile Gln Tyr Gly Ile Glu Asp Thr Gly
287     145             150             155
289 att agg gcg ggc att atc aag gtc gcg acc aca ggc aag gcg acc ccc       587
290 Ile Arg Ala Gly Ile Ile Lys Val Ala Thr Thr Gly Lys Ala Thr Pro
291 160             165             170             175
293 ttt cag gag tta gtg tta aag gcg gcc gcc cgg gcc agc ttg gcc acc       635
294 Phe Gln Glu Leu Val Leu Lys Ala Ala Ala Arg Ala Ser Leu Ala Thr
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295                  180                185                    190
297 ggt gtt ccg gta acc act cac acg gca gca agt cag cgc gat ggt gag    683
298 Gly Val Pro Val Thr Thr His Thr Ala Ala Ser Gln Arg Asp Gly Glu
299                  195                200                205
301 cga ggc agg ccg cca ttt ttg agt ccg aag ctt gag ccc tca cgg gtt    731
302 Arg Gly Arg Pro Pro Phe Leu Ser Pro Lys Leu Glu Pro Ser Arg Val
303          210                215                220
305 tgt att ggt cac agc gat gat act gac gat ttg agc tat ctc acc gcc    779
306 Cys Ile Gly His Ser Asp Asp Thr Asp Asp Leu Ser Tyr Leu Thr Ala
307      225                230                235
309 ctg ctg cgc gga tac ctc atc ggt cta gac cac atc ccg cac agt gcg    827
310 Leu Leu Arg Gly Tyr Leu Ile Gly Leu Asp His Ile Pro His Ser Ala
311 240                  245                250                    255
313 att ggt cta gaa gat aat gcg agt gca tca ccg ctc ctg ggc atc cgt    875
314 Ile Gly Leu Glu Asp Asn Ala Ser Ala Ser Pro Leu Leu Gly Ile Arg
315                  260                265                    270
317 tcg tgg caa aca cgg gct ctc ttg atc aag gcg ctc atc gac caa ggc    923
318 Ser Trp Gln Thr Arg Ala Leu Leu Ile Lys Ala Leu Ile Asp Gln Gly
319                  275                280                285
321 tac atg aaa caa atc ctc gtt tcg aat gac tgg ctg ttc ggg ttt tcg    971
322 Tyr Met Lys Gln Ile Leu Val Ser Asn Asp Trp Leu Phe Gly Phe Ser
323          290                295                300
325 agc tat gtc acc aac atc atg gac gtg atg gat cgc gtg aac ccc gac    1019
326 Ser Tyr Val Thr Asn Ile Met Asp Val Met Asp Arg Val Asn Pro Asp
327      305                310                315
329 ggg atg gcc ttc att cca ctg aga gtg atc cca ttc tac gag aga agg    1067
330 Gly Met Ala Phe Ile Pro Leu Arg Val Ile Pro Phe Tyr Glu Arg Arg
331 320                  325                330                    335
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339 tccccgtcaa gataccgaac gatgaagtcg cgcatcgatc gataggcatc ttcaattgtg    1240
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358          20                25                30
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362          35                40                45
365 Phe Thr Leu Thr His Glu Asp Ile Cys Gly Ser Ser Ala Gly Phe Leu
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VERIFICATION SUMMARY   DATE: 03/07/2007
PATENT APPLICATION: **US/08/252,384D**   TIME: 15:04:40

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